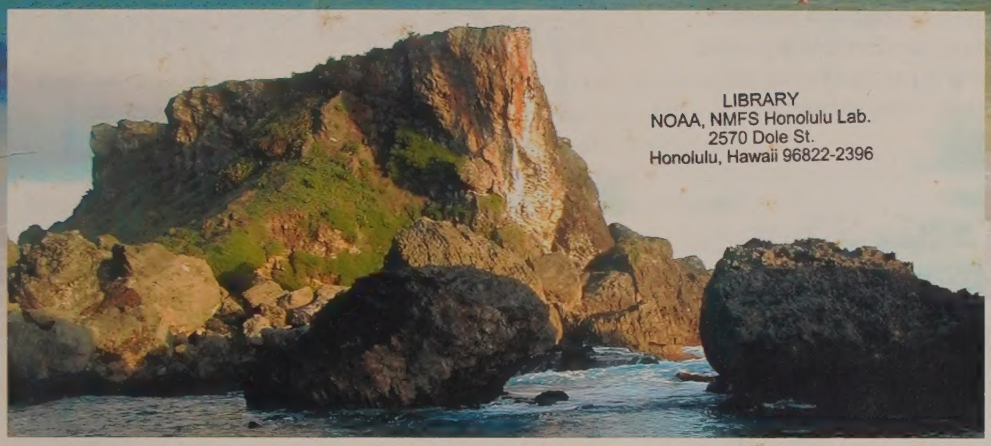
Pacific Islands Fishery News

Newsletter of the Western Pacific Fishery Management Council

Spring 2003



LIBRARY
NOAA, NMFS Honolulu Lab.
2570 Dole St.
Honolulu, Hawaii 96822-2396

Forbidden Island Marine Sanctuary, CNMI

MPA Inventory for CNMI Now Available Online

The Commonwealth of the Northern Mariana Islands (CNMI) is the first of the US commonwealths, states and territories to complete a marine protected area (MPA) inventory in the national database. The CNMI inventory includes 11 sites: the Northern Marianas Islands Conservation Areas of Uracas, Maug, Asuncion and Guguan Islands; Bird Island Marine Sanctuary; Bird Island Sea Cucumber Reserve; Bird Island Wildlife Conservation Area; Forbidden Island Marine Sanctuary; Laulau Bay Sea Cucumber Reserve; Tank Beach Trochus Reserve; Kagman Wildlife Conservation Area; Lighthouse Reef Trochus Reserve; the Managaha Marine Conservation Area; and the Sasanhaya Fish Reserve on Rota.

The CNMI inventory has a site profile page for each area including maps; general and legal information; site management, resources and protections; links; and data sources. It can be found at www.mpa.gov/mpaservices/inv_status/sup_cnmiextended.html.

Representatives from CNMI's Division of Fish and Wildlife (DFW) initiated the project last July by collaborating with other environmental agencies, including the Department of Lands and Natural Resources, the Coastal Resources Management Program, the Division of Environmental Quality and the Office of the Governor. The inventory was submitted for inclusion on www.mpa.gov in November 2002.

In This Issue

MPA Inventory for CNMI Now Available Online 1
American Samoa Fishers Seek Larger Longliner 1
Council Display a Big Hit at Guam Literacy Event.....2
CNMI Passes Bill to Ban Fishing with Scuba 2
Working Group to Advise Council on MPAs.....3
Midway Oil Spill Is Largest This Decade.....3
Fishers Voice Needs at Council Meetings 4
Is the Mercury Scare a Ploy to Shut Down Longlining? 6
Mercury Scare May Impact Hawaii Fishing Industry.....7
Sea Turtle Symposium Focuses on Fisheries Interactions, Indigenous Uses.....8
Workshop Identifies Actions to Reduce Sea Turtle Bycatch .8
Group Works to Reduce Sea Turtle Bycatch.....9
NMFS Establishes New Pacific Islands Region.....10
NMFS Endorses Circle Hooks.....10
Western Pacific Least Overfished Region.....11
New Fisheries Survey Vessel Based in Honolulu.....11
Council Chair Judith Guthertz Bids Fond Farewell.....11
Council Calendar.....12
Western Pacific Recipe.....12

American Samoa Fishers Seek Larger Longliner

The recent introduction of the Community Demonstration Projects Program (CDPP) by the Western Pacific Fishery Management Council has several local organizations and individuals in American Samoa excited at the prospects of obtaining funding for fisheries-related projects they have pondered for years. This program promises to be a suitable avenue to secure funding not only for economic development but also for enhancing aspects of the Samoan culture.

One of the favorite ideas thrown around during "leisure *vailima*" evenings with local fishermen is the purchase of a bigger aluminum longline alia—called Super*Alia*—from the neighboring independent Samoa. This type of vessel has been highly recommended by a

Continued on page 2

Fishermen are interested in obtaining a 40-foot SuperAlia for American Samoa. Neighboring Samoa procured its first SuperAlia (pictured above) a few years ago.

American samoa fishers seek larger longliner *continued from page 1*

top official with Samoa's Fisheries Division (Ministry of Agriculture, Forest, Fisheries and Meteorology), who was personally involved in fishing trials of the first Super*Alia* prototype.

Compared to the 28-foot alias typically used in American Samoa, this 40-foot vessel is safer, more comfortable and more reliable and can reach outlying fishing areas. Its relatively bigger holding capacity also makes it much more economical to operate than its smaller predecessor.

Council Display a Big Hit at Guam Literacy Event

Children enjoy the coloring sheets at the Council's exhibit booth, staffed by John Calvo, the Council's onsite coordinator for Guam.

On March 2, 2003, the *Pacific Daily News* launched its literacy project, READ: All About It. Children of all ages were treated to celebrity readers, skits, Chamorro storytellers and educational displays. The afternoon event at the Micronesia Mall was well attended.

As part of its education and outreach program, the Western Pacific Fishery Management Council participated in this worthwhile event by setting up an educational game display board featuring some of Guam's local fish. The colorful display was a big hit with both adults and children. Visitors tested their knowledge by naming each fish and identifying its habitat.

The display table also featured Council brochures, newsletters and coloring sheets of some of Guam's local fish. Children lined up for the coloring sheets, and teachers asked for copies of the Council newsletters for their school libraries, so as to provide additional reading material for the students.

CNMI Passes Bill to Ban Fishing with Scuba

The Saipan and Northern Islands Legislative Delegation has passed a bill prohibiting the use of scuba and similar gear for fishing around the island of Saipan and the Northern Islands. Introduced by Congressman Pete Castro and sponsored by several others, including Congressman Arnold I. Palacios, a former director of the CNMI's Division of Fish and Wildlife, House Local Bill Number 13-033 is now headed to the governor for his action.

If approved, it will become unlawful for fishermen (commercial or non-commercial) to use scuba or other related diving devices when fishing or harvesting marine life within the lagoon and coastal waters of the municipality of Saipan and the Northern Islands.

The bill was introduced following the delegation's findings that the use of scuba and other related devices have caused a significant depletion of fish and other marine life within the lagoon and coastal waters. The delegation also noted that preserving and regulating the fishing and harvesting of marine life in these areas is essential to maintaining, preserving and enhancing the marine ecosystem for the use and enjoyment of future generations of Northern Marianas residents.

If signed into law, the penalty for using scuba and other related devices to fish would be a fine of not more than $1,000 or imprisonment for not more than six months or both. In addition, the scuba apparatus and other equipment used in this form of fishing—such as spear gun, the boat and its motor—would be confiscated and donated to the Division of Fish and Wildlife to assist in its monitoring and enforcement of fishing regulations. All fines collected would be deposited into the Fish and Game Conservation Fund in a special account to support conservation and enforcement activities within the municipality Saipan and the Northern Islands. The Department of Lands and Natural Resources, in consultation with the Division of Fish and Wildlife, would enforce the provisions of the proposed legislation.

Working Group to Advise Council on Marine Protected Areas

In 2002, the Western Pacific Fishery Management Council formed the Marine Protected Area (MPA) Working Group. Its role is to develop an overarching MPA policy and to keep the Council informed on MPA policy issues on a national level and on the state of the MPA science in the region, nation and world. It will also ascertain the MPA-associated research needs in the Western Pacific Region, provide appropriate assistance on efforts to create MPAs in the Western Pacific Region and foster adaptive, ecosystem-based management of Council-designated MPAs.

In the US Pacific Islands, MPAs have a variety of names, including marine life conservation districts, wildlife refuges, regulated/restricted fishing areas, marine sanctuaries, marine reserves and fisheries management areas, to name a few. MPAs regulate various type of activities to varying degrees, ranging from minor fishing restrictions up to a complete ban on human presence.

Some MPA proponents argue that fully protected (i.e., no-take) MPAs are needed to alleviate the dramatic declines in the size, number, distribution and quality of a wide variety of important and desirable marine species and habitats. They say fully protected MPAs may provide a number of benefits: protection of spawning stock biomass, a recruitment source for surrounding areas, supplemental restocking of fished areas through emigration, maintenance of natural populations age structures, habitat maintenance, biodiversity maintenance, insurance against management failures in fished areas and simplified enforcement.

While many of these potential benefits have yet to be demonstrated, a number of studies indicate that the establishment of MPAs in reef ecosystems results in larger sizes and greater abundance of reef fishes within the protected area. Such results are of great interest to fishery managers because they demonstrate the potential MPAs may provide in enhancing fish stocks and rebuilding heavily exploited fish populations. What remains unclear is the extent to which MPAs increase fish stocks and availability in adjacent open waters.

In order for MPAs to be effective for fisheries management, careful thought and planning must be done to maximize resource protection while minimizing impacts to the resource users.

Midway Oil Spill Is Largest This Decade

Sometime over the weekend of Feb. 8-9, 2003, approximately 82,680 gallons of jet fuel leaked from a corroded fitting on a fuel line on Midway Atoll, *The Honolulu Advertiser* reported. That makes it the largest fuel spill in the Hawaiian archipelago in the past decade. Contaminated sand is being stockpiled and covered until a decision can be made on how to clean it up.

A representative of Midway Phoenix, former operator of the Midway fuel farm, said the company had warned the US Fish and Wildlife Service about problems with rusting pipes, *The Honolulu Advertiser* reported.

It is unknown what impacts the spill may have had on the monk seals, turtles or other protected species on the atoll, which is a national wildlife refuge.

2001 Pelagic and Bottomfish Annual Reports Available

The Western Pacific Fishery Management Council's *Pelagic and Bottomfish Annual Reports for 2001* were recently published. The documents are posted on the Council's website at www.wpcouncil.org and can be downloaded in pdf format from the Pelagic Fisheries and Bottomfish Fisheries pages. Hard copies or pdf files on a CD can be requested from the Council office. Phone +1 808 522-8220.

Pacific Islands Fishery News is published by the Western Pacific Fishery Management Council, 1164 Bishop St., Suite 1400, Honolulu, HI 96813. All rights reserved. Unsolicited material will not be returned unless accompanied by a self-addressed stamped envelope.

Telephone: +1 808 522-8220
Fax: +1 808 522-8226
Email: info.wpcouncil@noaa.gov
http://www.wpcouncil.org

Chair
Judith Guthertz (Guam)

Vice Chairs
Frank Farm (Hawaii)
Manuel Cruz (Guam)
Tom Pangelinan (Northern Mariana Islands)
Aitofele T. Sunia (American Samoa)

Executive Director
Kitty M. Simonds

Fishers Voice Needs at Council Meeting

Fishermen, government representatives and other interested persons in Guam and the Commonwealth of the Northern Mariana Islands (CNMI) had several opportunities to voice their fishery-related concerns during a series of meetings conducted by Council members and staff of the Western Pacific Fishery Management Council during February 2003.

Felix Perez Camacho, governor of Guam, and his wife, Joann G. Camacho (far right), with Council Executive Director Kitty M. Simonds.

Fishery Disaster Impacts: On Feb. 7, Council Chair Judith Guthertz, Executive Director Kitty M. Simonds and staff met with fishermen at the Guam Fishermen's Cooperative Association to discuss fishery disaster impacts from Typhoon Pongsona. Among the impacts of the typhoon reported by the fishermen were the following:

* Marked decline of pelagic fish catches, especially mahimahi
* Reduced tourist numbers, negatively impacting charter vessel fishing
* Fishing vessel damage, usually in excess of $5,000 per vessel
* Rise in typhoon insurance premiums
* $225,000 of structural damage to the Guam Fishermen's Cooperation Association and an additional $85,000 in lost equipment and salaries

The Council staff encouraged fishermen to complete the Fishery Damage Rapid Assessment Survey as soon as possible. Federal agencies and the government of Guam require this assessment as a prequalification for emergency aid and disaster relief.

Cooperative Research: Staff members from the Council and the National Marine Fisheries Service (NMFS) conducted meetings in Guam on Feb. 7 and in CNMI on Feb. 13 to identify potential Cooperative Research Program projects. This is a competitive program that awards $3 million nationwide. As such, only a few projects in the region are likely to be funded. Guam and CNMI fishermen identified 10 potential projects to research.

GUAM

* Impacts of foreign fishing fleets on Guam's economy and fishing industry
* Volume of illegal fishing being conducted on the offshore banks by foreign longline vessels and redirection of US Coast Guard assets from fishery patrols to anti-terrorism duties
* Impacts of shark populations and their predation on fish caught by local fishermen
* Residence times of yellowfin and skipjack tuna within the US exclusive economic zone around Guam
* Bottomfish grounds around Guam and the CNMI
* Impact of untethered fishing aggregation devices on pelagic and coral reef habitats
* Impact of purse seining in the Pacific, with emphasis on the Mariana Islands

CNMI

* Fishing potential around the Mariana Archipelago (survey and fishing trials to be conducted by the NOAA research vessel *Oscar Elton Sette*)
* CNMI troll and handline fisheries (catch, effort and biological data)
* Shark resources around CNMI

117th Council Meeting: Members of the Council addressed a diverse array of fishery issues Feb. 10-14 in Saipan. Among the actions taken were the following:

* Final action to recommend removal of the requirement for pelagic troll, handline and pole-and-line vessels in the Western Pacific Region to carry bolt cutters and line clippers to release captured sea turtles. Reports show that these vessels have virtually no interactions with sea turtles. Longline vessels will continue to be required to carry these devices.
* Initial action to amend the bottomfish fishery management plan to issue Northwestern Hawaiian Islands Mau Zone permits

Made of limestone, the Latte Stone was used by the ancient Chamorros as a pillar for an elevated home, it is speculated. The largest Latte Stones found are 25 feet tall and date to 1500 BC.

n Guam and CNMI

(l-r) John Calvo, Guam onsite coordinator; Jack Ogumoro, CNMI onsite coordinator; Hon. Benjamin Manglona, mayor of Rota; Richard Seman, director of Division of Fish and Wildlife; and Vicente Atalig, resident director, Rota Department of Lands and Natural Resources.

Guam Division of Aquatic and Wildlife Resources staff: back row (l-r): Lil Taijeron, Trina Leberer, Neil Martin, Shawn Wusstig; front row (l-r) Brent Tibbatts, Jaime Bass, Tom Flores. Not pictured: Jay Gutierrez, J. P. Gesner, Carlos Quintanilla.

for indigenous communities through the establishment of a Community Development Program.

* Initial action to implement an area closure in federal waters out to 50 miles from shore around Guam for bottomfish vessels greater than 50 feet. The aim of the recommendation is to ensure that smaller bottomfish-targeting vessels remain productive. Public meetings to solicit comments on this proposal were conducted in CNMI on Feb. 8 and in Guam on Feb. 10.

During the meeting, new Council members were sworn in.

Data Needs: The Council held public meetings in Guam on Feb. 8 and in CNMI on Feb. 10 to solicit advice on the need for additional data collection. Currently, creel surveys and trip tickets are the primary methods for collecting fishery data in Guam and CNMI. In general, meeting participants favored increasing data collection through community-based monitoring programs.

Community Demonstration Projects: A grant-writing workshop was held Feb. 13 in CNMI and Feb. 15 in Guam for persons interested in applying for a grant under the Community Demonstration Projects Program. This program provides grants to eligible Western Pacific communities to establish projects that promote indigenous fishing practices.

Among the attendees of the Council meeting in CNMI were (front row, l-r) Charles Karnella, Ben Sablan, Tom Pangelinan, Judith Guthertz, Kitty Simonds, Allen Tom, Manny Cruz; (back row, l-r) Bob Wilson, Ed Ebisui, Frank Farm, Walter Ikehara, William Gibbons-Fly, Roy Morioka, Ray Tulafono, Aitofele Sunia, Frank McCoy and Judson Feder.

Is the Mercury Scare a Ploy to Shut Down Longlining?

On April 10, 2003, California State Attorney General Bill Lockyer filed lawsuits against nearly 20 restaurants for not warning customers about mercury in seafood. The AG's complaint alleges that the restaurants have violated the provisions of Proposition 65, i.e., "disclosure before exposure" to known reproductive toxins. Filed in Superior Courts in San Francisco and Los Angeles, the lawsuits seek to force restaurants to warn customers about swordfish, ahi (yellowfin) tuna, albacore tuna and shark and to prohibit the sales of seafood until they post warnings, reports *E-Wire*.

In February of this year, the AG ordered five of the biggest grocery chains in the state to post signs that read: "Warning! Pregnant and nursing women, women who may become pregnant, and young children should not eat the following fish: swordfish, shark, king mackerel, tilefish. They should also limit their consumption of other fish, including fresh or frozen tuna." That decision was the result of a lawsuit filed by the Turtle Island Restoration Network and the As You Sow Foundation.

Many in the fishing industry question the motives of the Turtle Island Restoration Network, which has for years attempted to shut down the longline fishery to protect sea turtles. Doug Israel, project director of the Sea Turtle Restoration Project (an initiative of the Turtle Island Restoration Network), has made these statements during this time:

"We're actively trying to reduce consumption of swordfish. Time is running out. We have to be as bold as we can." (*Seafood Business* 1999)

"By issuing a public health advisory, Gov. Davis could protect both public health and endangered species. The increase in swordfishing in the Pacific has lead to a double crisis: the poisoning of pregnant women and the killing of endangered sea turtles." (Sea Turtle Restoration Project news release 2002)

"People can protect their own health and our oceans by simply not eating swordfish." (*The Wave* 2003)

Getting the US Food and Drug Administration (FDA) to include tuna in its mercury advisory is one of the Sea Turtle Restoration Project's initiatives.

In January 2001, the FDA issued a warning that pregnant women should not eat swordfish, king mackerel, shark and tilefish due to their mercury levels. The FDA guidelines consider 1 ppm methyl mercury as the safe intake level for the average consumer. In July 2002, an FDA advisory panel recommended that consumers also be warned about the potential risks of exposure to mercury in tuna.

Many in the fishing industry question the basis for linking mercury poisoning to fish consumption. They note that the only incident in which mercury in marine fish caused serious public health problems was associated with gross contamination of fish resulting from industrial effluents that polluted Minamata Bay in Japan in the 1950s. There has never been a scientifically documented case of mercury poisoning reported that was associated with the consumption of large pelagic species (tuna, marlin, swordfish, sharks, etc.).

The Environmental Protection Agency is pushing the FDA to adjust its guidelines. The EPA would like the FDA to use a study of the Faroe Islands (located near Norway and Iceland) as a basis for their recommendations.

The industry, however, is quick to point out that the Faroe Islands population is exposed to large doses of methyl mercury and PCBs from eating pilot whale (which is not a fish) at feasts. US consumers, on the other hand, do not eat pilot whale.

The industry believes that recommendations on seafood consumption for Americans should be based on a study of a population that eats seafood similar to that eaten by US consumers. For example, the Seychelles Child Development Study (SCDS) focused for five years on 700 mothers and children who regularly consume large amounts of pelagic fish. The University of Rochester research team that conducted the Seychelles research made a report to Congress that stated: "The results of the SCDS so far indicate no adverse developmental effects from prenatal MeHg [methyl mercury] exposure in the range commonly achieved by consuming large amounts of fish."

Furthermore, warning women to not eat fish may actually be detrimental to public health, as fish contains natural compounds that are beneficial and even essential for developing fetuses and infants. Danish researchers report that women who consume fish or seafood once a week during the first 16 weeks of pregnancy have a 3.5 times lower risk of giving birth to a low birth weight or premature baby than do women who never consume fish or seafood. German researchers found that the content in mother's milk of docosahexaencic (DHA)—which is vital for the proper development of an infant's brain and retina—was 0.05% in vegetarian women, 0.3% in the average omnivorous women and 1.40% in Inuit women, who consume large quantities of fish and other seafood.

Perhaps the best advice for now for pregnant and nursing women would be to eat a varied diet including fresh fish to make sure babies receive the beneficial oils needed for brain development—and avoid eating pilot whales.

Mercury Scare May Impact Hawaii Fishing Industry

An analysis of the mercury content in locally landed fish conducted by the Hawaii State Department of Health in 2002 suggests that the current mercury scare may have some serious implications for the Hawaii fresh fish industry.

If the current US Food and Drug Administration (FDA) defect action limit of 1.00 ppm methyl mercury is maintained, the Hawaii industry may encounter new requirements for mercury sampling and testing. This raises questions regarding the costs and practicality of sampling and testing prior to the sale of fresh fish in the market. The test turnaround time is too long to be applied to a fresh fish industry and if required may greatly alter industry practices.

If the FDA defect action limit is reduced as some people are advocating, a greater number and percentage of the important pelagic fish caught in the Hawaii pelagic fishery may be subject to warnings. This scenario would be devastating to the Hawaii industry. It should be kept in mind that this scenario might occur without evidence that the consumption of pelagic fish has ever caused methyl mercury poisoning.

Average Total Mercury Content for Hawaii Pelagic Fish*

Mahimahi:	0.19 ppm (range 0.06 to 0.33 ppm)
Striped Marlin:	0.20 ppm (range 0.04 to 0.52 ppm)
Aku (Skipjack):	0.23 ppm (range 0.11 to 0.47 ppm)
Yellowfin Tuna:	0.31 ppm (range 0.09 to 0.99 ppm)
Ono:	0.38 ppm (range 0.06 to 0.85 ppm)
Albacore:	0.43 ppm (range 0.26 to 0.60 ppm)
Bigeye Tuna:	0.47 ppm (range 0.11 to 0.83 ppm)
Opah:	0.73 ppm (range 0.40 to 1.29 ppm)

*Based on Hawaii State Department of Health 2002 analysis. For all species listed above, the average total mercury content is primarily methyl mercury.

SSC, Plan Team and AP members of the Western Pacific Fishery Management Council

SCIENTIFIC AND STATISTICAL COMMITTEE (indefinite terms): Stewart Allen, Richard Brock, Paul Callaghan (chair), Emmanuel Coutures, Charles Daxboeck, Richard Deriso, Scott Eckert, John Hampton, Walter Ikehara, Pierre Kleiber, James Parrish, Craig Severance, John Sibert, Robert Skillman, Michael Trianni

PLAN TEAMS (indefinite terms): *Ex-officio members of all Plan Teams*: David Hamm, Reginald Kokubun, Minling Pan. **Bottomfish and Seamount Groundfish**: Tom Flores, Donald Heacock, Walter Ikehara, Kurt Kawamoto, Robert Moffitt (chair), Kate Moots; **Coral Reef Ecosystems**: Tim Adams, Charles Birkeland, Edward Demartini, Alan Everson, Alan Friedlander, Jay Gutierrez, James Maragos, Fatima Sauafea, Michael Tenorio, Jeffrey Walters (chair); **Crustaceans**: Mike Gawel, Kurt Kawamoto, Jo-Anne Kushima, Richard Phillips, Jeffrey Polovina (chair), Stu Simmons, Michael Tenorio; **Pelagics**: Keith Bigelow (chair), Christofer Boggs, Andrew Burnell, Russell Ito, Pierre Kleiber, Nathaniel Martin, Ray Roberto, John Sibert, Robert Skillman, Selaina Vaitautolo; **Precious Coral**: Richard W. Grigg (chair), James Maragos, Carl Marsh, Tony Montgomery, Frank Parrish

ADVISORY PANELS (2003–2004): *Chair*: Richard Shiroma; *Vice Chair*: Sean Martin. **Commercial**: James Anderson, Clayton Carvalho, Manny Duenas (chair), Harris Hiura, Christinna Lutu, Ramon C. Mafnas, Sean Martin, Leo Ohai, Benny K. Pangelinan, Richard Tamashiro; **Ecosystem and Habitat**: Jennifer Bauer, Lida Chase, Michael Crook, Eric Gilman, John Gourley (chair), Agustin Gumataotao, Dwayne Meadows, Fatima Sauafea, Joaquin Villagomez, Wadsworth Yee; **Recreational**: Gary Beals, Tim Hale, Pedro Itibus, Henry Lau, Michael Loffenes, Manases Manglona, William Mossman, Marie Teresa O'Brien, Jerry Perez, William Sword (chair); **Subsistence**: Dale Alvarez, Anthony Anjo, James Borja, Jesus Cabrera, Louie Denolfo, Judy Filiaga, Michael Fleming, Andrew Jones, Kawehi Ryder (chair), James Mawae. *Alternates*: William Bradford, Roberto Cabreza, Timothy Ferrell, Mike House, Clement Kanuha, Brian Mediola, Mary Jane Porter, Steve Vaiau.

DEMONSTRATION PROJECTS ADVISORY PANEL: Judith Amesbury, Victoriano April, Mike Fleming, Clement Kanuha, Henry Pelekai, Henry Sesepasara (chair), Alo Paul Stevenson, Estanislao Taisacan. *Alternates*: Puanani Burgess, Jose Garrido, Colette Machado

Sea Turtle Symposium Focuses on Fisheries Interactions, Indigenous Uses

The Annual Symposium on Sea Turtle Biology and Conservation convened in Malaysia March 17-21, 2003, was an historic occasion. It was the first time in 23 years that the Symposium was held outside of the United States. About 70 oral presentations and over 170 posters were shared during plenary and breakout sessions. Also held within the auspices of the Symposium was a tagging and tracking workshop, a meeting of the International Union for the Conservation of Nature (IUCN) Marine Turtle Specialist Group and a session on indigenous cultures and turtles.

Paul Dalzell, senior scientist for the Western Pacific Fishery Management Council, gave an oral presentation on the turtle–longline fishery interactions in the Western Pacific Region. He provided data on the spatial and temporal characteristics of turtle takes by the Hawaii longline fishery and outlined the measures taken to reduce turtle interactions during 2001. The complete abolition of longline fishing for swordfish, an April–May seasonal closure south of 15°N by tuna targeting longliners and other measures reduced interactions and mortalities by up to 95 percent. However, the costs to the fishing industry were onerous, with a 40 percent decline in landing revenues in 2001.

The Hawaii and American Samoa longline fisheries combined amount to less than 5 percent of the total annual number of hooks set in the Pacific, Dalzell noted. Moreover, longline fleets continue to expand, particularly in Australia, New Zealand, the Pacific Islands and parts of Southeast Asia, such as Vietnam. The potential for further longlining expansion by China is substantial.

His presentation concluded with a review of the Council's conservation program for turtles. This collaborative effort with the National Marine Fisheries Service (NMFS) includes not only mitigation of longline fishery–turtle interaction but also in-country activities in various Pacific Islands to identify and manage nesting beaches. Dalzell said hook depth appears to be a critical factor governing interaction rates, with shallow set hooks appearing most likely to result in interactions.

The indigenous cultures and turtles session included presentations from Costa Rica, Oman, Palau, Puerto Rico and Venezuela. Jack Frazier illustrated how humans and turtles have interacted for many millennia and how turtles may have provided critical food resources for humans. Thus humans may have had an effect on turtle selection leading to a co-adaptive relationship and the ostensible "domestication" of sea turtles. Perran Ross's presentation on artisanal and subsistence use of turtles in Oman suggests that depleted turtle populations if left unmolested may recover faster than was previously thought.

Nicholas Pilcher ably organized the Symposium. Pilcher is currently based with the Community Conservation Network in Palau, but has previously worked in Malaysia and Southeast Asia.

Workshop Identifies Actions to Reduce Sea Turtle Bycatch

Participants from 19 countries and four intergovernmental organizations participated in the International Technical Expert Workshop on Marine Turtle Bycatch in Longline Fisheries, convened Feb. 11-13, 2003, in Seattle.

The workshop objectives were to evaluate existing information on turtle byactch in longline fisheries, to facilitate and standardize collection of data from longline fisheries that are likely to interact with marine turtles, to exchange information on experimentation with longline gear relative to turtles and target species, to identify and consider solutions to reduce turtle bycatch in longline fisheries and to exchange information and gain a comprehensive understanding of the fishing methodologies and operations of global longline fleets.

Six overarching strategies were identified as key elements to address sea turtle bycatch in longline fisheries: improved data collection and monitoring; regulatory approaches to fishery management; incentives to participate in the development and implementation of bycatch reduction measures; modifications of gear and fishing practices; modifying, developing and implementing multi-lateral agreements; and training, outreach and capacity building.

Specific actions were identified to implement each of these strategies taking into account the following: local, regional and global scales; differences between developed and developing nations; differences in the biology and vulnerability of sea turtle species and stocks; and differences in the characteristics of longline fisheries. Because of the urgency of the sea turtle bycatch issue, both immediate and long-term actions were considered. Workshop participants prioritized actions to implement the six identified strategies. The six highest ranking actions overall are as follows:

* Develop new approaches to time-area closures using real-time spatial management applied to all fleets to reduce marine turtle-longline fisheries interactions;
* Request that the United Nations Food and Agriculture Organization (FAO) convene an intergovernmental technical consultation to address the issue of marine turtle bycatch in longline fisheries;
* Encourage rapid deployment and implementation of items that have shown promise for reducing marine turtle bycatch in shallow swordfish fisheries;
* Direct additional and immediate marine turtle bycatch reduction research in the major ocean basins to fine tune recent findings, taking into account differences among species;
* Involve industry in discussions regarding bycatch reduction strategies as early as possible; and
* Identify and secure funding to accomplish these actions.

Taken together these actions constitute an initial policy approach for immediate action given the urgency of the need to reduce marine turtle bycatch and mortality in longline fisheries.

Group Works to Reduce Sea Turtle–Fisheries Interactions

During January 2003, the Sea Turtle–Pelagic Fish Sensory Biology Working Group gathered at the National Marine Fisheries Service (NMFS) Honolulu Laboratory to discuss the results of projects funded by the lab over the past two years. The aim of the group is to identify specific differences in the visual, olfactory and auditory senses of pelagic fishes and sea turtles that could be exploited to make longline fishing gear less attractive (or actively repulsive) to sea turtles. Among the findings reported were the following:

Juvenile Kemp's ridley turtles were attracted to untreated squid but avoided the blue-colored food items.

Swordfish and tuna can see only shades of blue and green. According to electrophysiological and anatomical experiments conducted by the researchers, both species have only one visual (i.e., light absorbing) pigment in their retinas. (Kirsten Fritsches, University of Queensland, Australia, and Eric Warrant, University of Lund, Sweden)

Turtles have "faster" eyes that targeted fish species. Hence, a rapidly blinking light would appear continuous to tunas and billfishes, yet appear flashing (and potentially bothersome) to turtles. A bright rapidly flashing red-orange light could be highly visible and a potential deterrent to sea turtles, yet it would be nearly invisible to fish. (Fritsches and Warrant)

Sea turtles not only see faster than targeted fish species, they also discriminate colors better because they see farther into the red-orange range. Sea turtle vision, however, does not cover the full spectrum visible to humans. (Scott Eckert, Hubbs Sea World Research Institute; Dave Levenson, Scripps Institution of Oceanography; and Michael Crognale,University of Nevada, Reno)

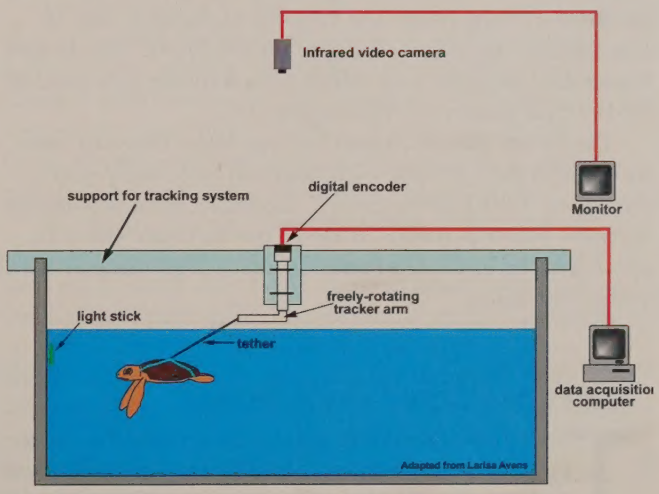
Captive green and loggerhead sea turtles can be attracted to, or repelled from, food items based on color alone. Squid dyed dark blue are avoided, even though the turtles will readily attack an undyed squid hanging immediately next to it. Red food items are preferred over untreated foods. Surprisingly, tests indicate that blue-dyed squid is ineffective at reducing turtle catch in the Atlantic swordfish longline fishery. (Yonat Swimmer, NMFS Honolulu Laboratory)

Juvenile loggerhead turtles maintained in semi-wild conditions actively fled a model shark once they approached close enough to clearly see it. The turtles instinctively took flight in apparent panic of the shark model even though they had been reared in captivity since they were hatchlings and had never seen a live shark. (Ben Higgins, NMFS-Sea Turtle Facility, Galveston, Texas)

Sea turtles have only a few dozen functional odor receptors (ORs). The number of ORs is directly related to an animal's ability to smell. Dogs, whose sense of smell is highly developed, have several thousand functional ORs. Surprisingly, sea turtle's ORs are of a type land animals use to detect airborne odors, rather than the type fish use to detect waterborne odors. (Dick Vogt, University of South Carolina)

Both sea turtles and tunas hear only at low frequencies, and they do not hear very well. Their hearing abilities were measured using a clinical-based system originally developed to diagnose brain dysfunction in humans. Based on the results, the working group concluded that auditory stimuli (e.g., pingers)—which have been used successfully to keep marine mammals from becoming entangled in nets—are not likely to be useful to keep turtles away from longline gear. (Soraya Moen Bartol)

Richard Brill and Swimmer, with the assistance of Lianne Mailloux, hosted the meeting. Besides the principal investigators from the various projects, the group also included industry representatives as well as NMFS and Western Pacific Fishery Management Council staff.



This system is used to measure the attractiveness of chemical light sticks to turtles. So far, turtles have been shown to swim towards blue, green and yellow chemical light sticks.

NMFS Establishes New Pacific Islands Region

On April 21, 2003, the National Marine Fisheries Service (NMFS, also known as NOAA Fisheries) established a new region in the Western Pacific to provide better customer service and ecosystem management of resources within the expansive area of the Pacific islands.

Acting Pacific Islands Regional Administrator Samuel G. Pooley, has worked at the NMFS Honolulu Laboratory since 1981. He has headed the Fishery Management and Performance Investigation since 1987.

The new Pacific Islands Regional Office (PIRO) and Pacific Islands Fisheries Science Center (PIFSC) were elevated in organizational status from a local area and laboratory, respectively. The action will allow NOAA Fisheries to better address the unique and growing importance of living marine resources to constituents in the US Pacific Islands.

The implementation of the new region marks the culmination of much effort by the Western Pacific Fishery Management Council to place the US Pacific Islands on an equal footing with other administrative regions in the United States (Alaska, Northwest, Southwest, Southeast and Northwest). Until recently, the US Pacific Islands were incorporated within the Southwest Region, which also includes California. The Southwest Regional Office and Science Center are based in Long Beach and La Jolla, respectively, and all management decisions relating to the US Pacific Islands were transmitted through these offices prior to being forwarded to NMFS headquarters in Washington, DC.

The Pacific Islands Region has now been 'liberated' from its ties with the US West Coast and will liaise and report directly to NMFS headquarters," Council Executive Director Kitty M. Simonds stated. "More of the decisions that may affect fisheries in the US Pacific Islands will be made internally within the region."

"This is a win-win development for everyone involved," said Dr. Bill Hogarth, NOAA Fisheries Assistant Administrator. "We now have the benefit of having a regional office and science center closer to our constituents and the marine resources we manage."

PIFSC Acting Director Jeffrey J. Polovina, has worked in varying capacities at the NMFS Honolulu Laboratory since 1979. For the past decade, he has been chief of Ecosystem and Environment Investigation.

The new Pacific Islands Region includes the largest geographical area of all US regions. Bounded by the Hawaiian Archipelago in the north, American Samoa and US possessions in the south, and the Marianas Archipelago in the west, the total area of the exclusive economic zone (EEZ) under PIRO jurisdiction is more than 1.7 million square nautical miles, which is equal to the total EEZ of the entire US mainland (including Alaska). The PIRO will carry out living marine resources conservation and management responsibilities assigned to NOAA Fisheries in the Central and Western Pacific and will have a structure similar to other regions, with three major operational divisions: sustainable fisheries, protected resources and habitat conservation.

The PIFSC will retain its existing structure with five research divisions (coral reef ecosystems, fish biology and ecology, ecosystems and environment, protected species, and fishery management and performance). The PIFSC's responsibility will be to provide high-quality scientific research and advice for fisheries management and conservation and for the recovery of protected species throughout the Pacific Islands Region. The PIFSC's current staff of 168 is expected to increase by 17 to handle its increased responsibilities.

The PIRO and the PIFSC will be included in an effort to consolidate all NOAA offices in the Pacific. Plans to establish a NOAA campus where all NOAA offices will reside are in the early planning stages.

NMFS Endorses Circle Hooks

The National Marine Fisheries Service (NMFS) recently published a *Federal Register* notice in which it officially endorses the use of circle hooks in recreational fisheries targeting big gamefish. Studies have shown that the use of circle hooks promotes conservation in recreational highly migratory fisheries by helping reduce bycatch while increasing catch rates and lowering post-release mortality.

NMFS has been studying the efficacy of circle hooks for many years and has supported training and outreach efforts in proper baiting and hooking techniques since the mid-1990s. A study conducted by NMFS in the spring and summer of 1999 evaluated the performance of circle and J hooks on Atlantic and Pacific sailfish and, to a lesser extent, Pacific blue marlin.

Circle hooks used on sailfish had hooking percentages (i.e., fish hooked/fish bite) that were 1.83 times higher compared with J hooks. Additionally the study indicated that circle hooks reduce deep hooking and promote the live release of species. More sailfish were hooked in the corner of the mouth using circle hooks (85 percent) than J hooks (27 percent), and fewer were deep hooked in the throat and stomach with circle hooks (2 percent) compared with J hooks (46 percent).

Western Pacific Least Overfished Region

A misprint in the *NOAA Fisheries 2001 Report* lists the Western Pacific Region (now the Pacific Islands Region) as having 11 overfished stocks in 2001. In reality, the only overfished stock in the Pacific Islands Region is the armorhead. This Northwestern Hawaiian Islands fishery was overexploited by foreign fleets prior to the establishment of the Western Pacific Fishery Management Council in 1976 and has not recovered. The Council has asked NMFS to publish an errata sheet to correct this and other mistakes in the report.

According to the report, there were 16 overfished stocks in the Northeast, 25 in the Southeast, seven in the West Coast and two in Alaska.

New Fisheries Survey Vessel Based in Honolulu

A former Navy ship was commissioned into the NOAA research fleet in January in Honolulu. The *Oscar Elton Sette* will be working to assess and protect the Pacific Islands Region's fisheries and living marine resources.

"Not only are we greatly expanding our observation and research potential, but we're continuing in the gradual trend of revitalizing the NOAA fleet," said retired Navy Vice Adm. Conrad C. Lautenbacher, NOAA Administrator and Undersecretary of Commerce for Oceans and Atmosphere. "With each new or refurbished addition to the NOAA fleet we become more efficient at supporting the NOAA mission. The *Sette* has a longer range, enhanced stability and better boat-handling and a larger suite of scientific labs than most other research vessels."

Ret. Navy Vice Adm. Conrad C. Lautenbacher, NOAA Administrator and Undersecretary of Commerce for Oceans and Atmosphere, with Kitty M. Simonds, executive director, Western Pacific Fishery Management Council, at the commissioning of the new NOAA research vessel Oscar Elton Sette in Honolulu.

Oscar Elton Sette's home port is Honolulu. It will conduct fisheries assessment surveys, physical and chemical oceanography, coral reef research and marine mammal projects to continue the work of the recently decommissioned, 39-year-old Townsend Cromwell.

NOAA Corps Cmdr. Kenneth W. Barton commands the *Oscar Elton Sette*. Five NOAA Corps officers, three licensed engineers and 13 mariners crew the 224-foot vessel, which carries up to 12 scientists.

Hafa Adai and Si Yuus Maāse

by Judith Paulette Guthertz

Representing Guam as a member of the Western Pacific Fishery Management Council has been an honor and experience I shall never forget. Beginning with my first official day as a Council member in 1997, I easily detected the excellence that accompanies the work of the Council in everything it does. What makes this all possible is the continuing high level of commitment towards sustainable fisheries jointly demonstrated by the Council members and staff.

The work of the Council and staff is exciting and impacts the well being of all of the people, marine environment and fishing communities in American Samoa, Hawaii, the Northern Marianas and Guam.

Although all of these areas are part of the Pacific Islands Region and proudly fly the US flag, they each have their own unique marine, environmental and fishery challenges. They are also greatly influenced by the heightened expectations of their citizens that come with progress and development within unique social and economic environments characterized by the indigenous and diverse cultures and traditions of each island area.

The work of the Council and staff is science and data driven. Council decisions impacting the region are based upon the best possible science and data available. The Council works closely with its Scientific and Statistical Committee, Plan Teams, Advisory Panels and various Council-sponsored task forces in evaluating the science and data that go hand in hand with Council work.

As a Pacific Islander raised on Guam, it has been my pleasure to work with my colleagues on the Council and with the Council staff. I have come to know them well, and I respect their work. I have had the unique opportunity to help develop public policies impacting the lives of the people in the region. In the process of doing this work, I have learned much along the way. I am very grateful to the people of Guam and to the US Secretary of Commerce for having had this unique and rare opportunity.

As I prepare to leave the Council as the chairperson and as a member from Guam, I want to extend my sincere heartfelt appreciation to the Council family and to all those with whom I have come in contact along the way. The work of the Council is important work. I will always be available to assist the Council in any way I can.

COUNCIL CALENDAR

MAY

5 US Coast Guard Ocean Guardian Revalidation Listening Session, Council conference room, Honolulu

5–9 Western and Central Pacific Fishery Management Commission, PrepCon IV, Nadi, Fiji

6–8 83rd Scientific and Statistical Committee meeting, Council conference room, Honolulu

13–15 Marine Fisheries Advisory Committee meeting, San Francisco

13–16 Northwestern Hawaiian Islands Science Workshop, Honolulu

13–16 54th Tuna Conference, Lake Arrowhead, Calif.

19–21 IATTC Stock Assessment Working Group meeting, La Jolla, Calif.

26–29 Council Chairmen and Executive Directors meeting, Virgin Islands

JUNE

6–7 Council Advisory Panel meeting, Honolulu

10-11 NOAA Fisheries 2003 Constituent Session, Honolulu

10–13 118th Council Meeting, Honolulu

17–28 IATTC/AIDCP meetings, Antigua, Guatemala

18–20 Coral reef, climate, coral bleaching workshop, Turtle Bay, Hawaii

JULY

13–17 Coastal Zone '03, Baltimore, Md.

14–19 17th Standing Committee on Tuna and Billfish, Mooloolaba, Brisbane, Australia

23–August 2 Leadership Seminar for Senior Fisheries Managers, East-West Center, Honolulu

AUGUST

10–14 American Fisheries Society meeting, Quebec City, Quebec, Canada

18–22 3rd SPC Heads of Fisheries meeting, New Caledonia

Western Pacific Recipe

Shoyu Poke

INGREDIENTS

½ pound fresh fish (aku, ahi, marlin, etc.)
1 tsp finely chopped ginger
½ cup shoyu (soy sauce)
1 round onion, quartered and sliced
1 to 2 stalks green onion
chopped chili pepper flakes, optional

PREPARATION

Cube fish to desired size. Combine with ginger and shoyu. Let stand in refrigerator for at least 1 hour. Combine with onions and pepper flakes (if desired). Serve cold as an appetizer. Serves 4.

Courtesy of *Hawaii Fishing News.*

Western Pacific Fishery Management Council
1164 Bishop Street, Suite 1400
Honolulu, Hawaii 96813 USA